Table 1. Health Effect Levels of Temephos in Humans and Laboratory Animals

Route	Duration	Species	NOAEL	LOAEL	Organ/Effect	Comments	Reference
Acute Duration Toxicity							
dermal	once	human	1.1 g/person		Signs of toxicity	Used from a shaker or duster in topical treatment for lice. Concluded to be safe and effective.	Steinberg et al. 1972
dermal	once	rat (m)		>4,000 mg/kg	LD_{50}	LD_{50}	INCHEM 2002
dermal	once	rat (f)		>4,000 mg/kg	LD_{50}	LD_{50}	INCHEM 2002
dermal	once	dog		>5,000 mg/kg	LD_{50}	LD_{50}	EXTOXNET 2002
dermal	once	cat		>5,000 mg/kg	LD_{50}	LD_{50}	EXTOXNET 2002
dermal	once	rabbit		1,300 mg/kg	LD_{50}	LD_{50}	INCHEM 2002
dermal	5 days	rabbit		0.4 ml/kg/day (178 mg a.i./kg/day)	Cholinesterase inhibition; diarrhea	Both cholinesterase inhibition and diarrhea were noted.	INCHEM 2002
oral	5 days	human	256 mg/day (~3.7 mg/kg/day)		Cholinesterase inhibition; clinical symptoms	No inhibition or symptoms observed.	Laws et al. 1967
oral	once	rat (m)		8,600 mg/kg	LD_{50}	LD_{50}	INCHEM 2002
oral	once	rat (f)		1,300 mg/kg	LD_{50}	LD_{50}	INCHEM 2002
oral	once	mouse		4,700 mg/kg	LD_{50}	LD_{50}	EXTOXNET 2002
oral	5 days	rabbit		100 mg/kg/day	Liver	Focal and diffuse hepatic necrosis noted.	HSDB 2003
oral	5 days	guinea pig	100 mg/kg/day		Organophosphate poisoning	No poisoning noted.	INCHEM 2002

Table 1. Health Effect Levels of Temephos in Humans and Laboratory Animals (continued)

Route	Duration	Species	NOAEL	LOAEL	Organ/Effect	Comments	Reference
Intermediate Duration Toxicity							
dermal	3 weeks, 5 days/wk	rat	12 mg/kg/day	60 mg/kg/day	Lesions; tissue changes; body weight	When applied dermally as aqueous emulsion, half of rats had abraded skin. Decreased weight gain noted in 60 mg/kg/day group (intact and abraded skin), but no other effects seen.	INCHEM 2002
oral	28 days	human	64 mg/day (~0.9 mg/kg/day)		Cholinesterase inhibition; clinical symptoms	No inhibition or symptoms observed.	Laws et al. 1967
oral	30 days	rabbit		10 mg/kg/day	Liver	Mild hepatic pathologic changes.	HSDB 2003
oral	44 day	rat	1 mg/kg/day	10 mg/kg/day	Erythrocyte cholinesterase inhibition	10 mg/kg/day resulted in 31% inhibition at 14 days and 47% at 44 days. No signs of organophosphate poisoning seen. Rats receiving 100 mg/kg/day showed signs of poisoning after 3 days (at 64% inhibition); gradual recovery from symptoms ensued, although inhibition progressed to 87% after 11 days.	INCHEM 2002
oral	35 days	rabbit	1 mg/kg/day	10 mg/kg/day	Cholinesterase inhibition; liver effects	No effects or significant inhibition were noted at 0.1 mg/kg/day or 1 mg/kg/day. The 10 mg/kg/day group developed 26% inhibition by day 7 and 47% inhibition by day 35. No animals showed signs of poisoning; no higher doses were used.	INCHEM 2002; HSDB 2003
oral	90 days	rat	6 ppm (0.3 mg/kg/day)	350 ppm (17.5 mg/kg/day)	Cholinesterase inhibition; clinical signs	Cholinesterase inhibition was the only effect noted.	INCHEM 2002; HSDB 2003
oral	35 days	rat	1 mg/kg/day		Cholinesterase inhibition	No cholinesterase inhibition was seen.	HSDB 2003
oral	186 days	sheep	5 mg/kg/day			No effects were noted.	HSDB 2003

Table 1. Health Effect Levels of Temephos in Humans and Laboratory Animals (continued)

Route	Duration	Species	NOAEL	LOAEL	Organ/Effect	Comments	Reference
oral	99 days	rat		2,000 ppm (~100 mg/kg/day)	Death, clinical signs, and erythrocyte cholinesterase inhibition	8 of 10 died within 10 days; 100% erythrocyte cholinesterase inhibition; signs of poisoning.	HSDB 2003
Chronic Duration Toxicity							
oral (in drinking water)	19 months	human	0.5 ppm		Cholinesterase inhibition; clinical symptoms	No inhibition or symptoms observed in village of 2,000 when water containers were treated once a month with temephos; 0.5 ppm estimated maximum dose.	Laws et al. 1968
oral (diet)	2 years	rat	300 ppm		Not specified	No effects were noted.	HSDB 2003
oral	422 days	sheep	2.5 mg/kg/day		Not specified	No effects were noted.	HSDB 2003
oral	1 year	cow		1 mg/kg/day	Not specified	"Signs of poisoning" were noted.	HSDB 2003
oral	2 years	rat	1 ppm	10 ppm	Liver effects	Minor pathologic changes noted in liver.	EXTOXNET 2002
Developmental/Reproductive Toxicity							
oral (in drinking water)	19 months	human	0.5 ppm		Cholinesterase inhibition; clinical symptoms; reproduction	No symptoms observed in village of 2,000 when water containers were treated once a month with temephos; 0.5 ppm estimated max. dose. Eight normal births were observed.	Laws et al. 1968
oral (diet)	3 generations	rat	125 ppm		Fertility, gestation, reproduction, lactation, congenital defects	No effects were noted. Dietary exposure continued from weaning through reproductive age.	HSDB 2003

Table 1. Health Effect Levels of Temephos in Humans and Laboratory Animals (continued)

Route	Duration	Species	NOAEL	LOAEL	Organ/Effect	Comments	Reference
oral	unspecified	rat		500 ppm (25 mg/kg/day)	Number of litters, litter size, viability, congenital defects, cholinesterase inhibition; signs of toxicity	No developmental or reproductive effects were noted, but some cholinesterase inhibition and toxicity were seen.	EXTOXNET 2002; HSDB 2003
oral	1 year	cow		1 mg/kg/day	Fertility	Evidence indicated that it may affect the fertility in heifers.	HSDB 2003